# Washington Rural Health Assessment Project

## *Child and Adolescent Health*

**Summary**
Children ages 1 to 18 accounted for nearly 26% of the Washington state population in 2000. During 1990-2000, the child population grew 20.5% statewide. Growth was greatest in urban fringe areas, while small town rural areas experienced negative growth. However, in six rural counties, the number of children grew faster than the state rate.

The health status of children in rural areas and their access to health care are influenced by multiple factors, including poverty, inadequate supply and distribution of pediatric providers, and lack of transportation. Child care and after-school programs are often limited in rural communities.

The health and well-being of many children living in rural areas compares unfavorably with those living in urban areas. Data in this monograph reveal that, compared with young people in urban areas, children and adolescents in rural areas experience higher over-all death rates and higher rates of unintentional injuries (especially those associated with motor vehicle crashes). They are more likely to be hospitalized and consume alcohol.

Children growing up in rural communities who have special health care needs or chronic conditions face additional challenges, including lack or delay in early screening, evaluation, and diagnosis of their special needs as well as a lack of coordinated services, which can reduce the long-term severity of their disabilities or chronic conditions.

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Children ages 1 to 18 accounted for 25.7% of the Washington State population in 2000. From 1990-2000, the number of children in Washington increased 20.5%. Six of twenty-eight rural Washington counties had growth rates greater than the state rate for the child and adolescent population.

**Table 1: Population of Children Ages 1-18 in Selected Washington Rural Counties**

| County | 1990 | 2000 | Numeric change | Percent change | Percent of county population in 2000 |
|---|---|---|---|---|---|
| Counties with growth rates greater than the state growth rate | | | | | |
| Grant | 17,248 | 24,146 | 6,898 | 40.0% | 32.3% |
| San Juan | 2,046 | 2,835 | 789 | 38.6% | 20.1% |
| Chelan | 13,963 | 18,622 | 4,659 | 33.4% | 28.0% |
| Skagit | 20,772 | 27,661 | 6,889 | 33.2% | 26.9% |
| Douglas | 7,543 | 9,561 | 2,018 | 26.8% | 29.3% |
| Mason | 9,650 | 11,672 | 2,022 | 21.0% | 23.6% |
| Counties with growth rates less than the state growth rate | | | | | |
| Adams | 4,642 | 5587 | 945 | 20.4% | 34.0% |
| Stevens | 9,786 | 11,694 | 1,908 | 19.5% | 29.2% |
| Island | 15,240 | 18,175 | 2,935 | 19.3% | 25.4% |
| Kittitas | 6,013 | 7,164 | 1,151 | 19.1% | 21.5% |
| Pend Oreille | 2,642 | 3,127 | 485 | 18.4% | 26.7% |
| Jefferson | 4,521 | 5,262 | 741 | 16.4% | 20.3% |
| Okanogan | 9,583 | 10,977 | 1,394 | 14.5% | 27.7% |
| Walla Walla | 12,413 | 13,867 | 1,454 | 11.7% | 25.1% |
| Cowlitz | 22,362 | 24,832 | 2,470 | 11.0% | 26.7% |
| Asotin | 4,829 | 5,240 | 411 | 8.5% | 25.5% |
| Garfield | 583 | 630 | 47 | 8.1% | 26.3% |
| Lincoln | 2,365 | 2,553 | 188 | 7.9% | 25.1% |
| Lewis | 16,908 | 18,194 | 1,286 | 7.6% | 26.5% |
| Skamania | 2,464 | 2,612 | 148 | 6.0% | 26.5% |
| Clallam | 13,675 | 14,466 | 791 | 5.8% | 22.4% |
| Wahkiakum | 857 | 903 | 46 | 5.4% | 23.6% |
| Klickitat | 4,930 | 5,157 | 227 | 4.6% | 26.9% |
| Whitman | 7,786 | 8,134 | 348 | 4.5% | 20.0% |
| Ferry | 2,002 | 2,035 | 33 | 1.6% | 28.0% |
| Pacific | 4,537 | 4,599 | 62 | 1.4% | 21.9% |
| Grays Harbor | 17,275 | 17,386 | 111 | 0.6% | 25.9% |
| Columbia | 1,002 | 993 | -9 | -0.9% | 24.4% |

Source: U.S. Census Bureau

In 2000, urban fringe areas had the highest proportion of children ages 1-18 (29.1%), and urban core areas had the lowest (24.8%), as the following table shows.

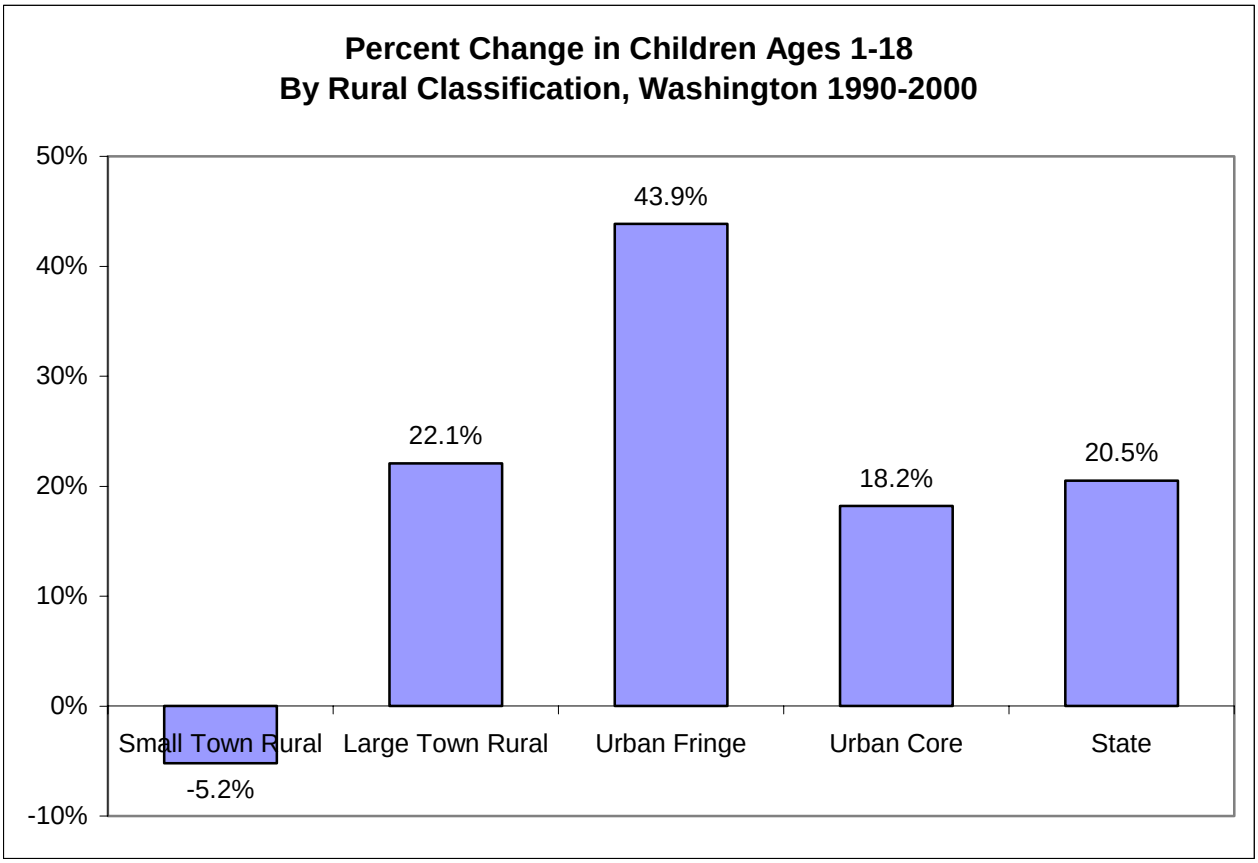
**Table 2: Percent Population Children by RUCA Code**

| | | Rural Urban Commuting Areas (RUCA) Census Tracts in: | | | |
|---|---|---|---|---|---|
| **Percent of population** | **State total** | **Small town rural** | **Large town rural** | **Urban fringe** | **Urban core** |
| Children ages 18 and younger | 25.7% | 25.7% | 27.0% | 29.1% | 24.8% |

Source: U.S. Census Bureau

A comparison of data from 1990 to 2000 shows that while the population of children grew fastest (nearly 44%) in urban fringe areas during the decade, small town rural areas experienced negative growth (–5.2%) in their number of children and youth.

**Chart 1: Change in Population of Children Ages 1-18 from 1990 to 2000**




Source: U.S. Census Bureau

## Key Health Indicators for Children and Youth

Children and adolescents are a vulnerable population. Poverty, inadequate supply and distribution of pediatric providers, and lack of transportation are some of the major challenges that affect both the health status and access to health care of young people who live in rural communities. Child care and after-school programs are often limited in rural areas. For these reasons, the health and well-being of many children living in rural areas compares unfavorably to those living in urban areas.

## Death Rates[i]

The overall child death rate in Washington is significantly higher in small town rural areas than in more urban areas of the state, regardless of age group. The leading causes of child mortality are unintentional injury, malignant neoplasms, and intentional injury. The Healthy People 2010 objective is to reduce child mortality to no more than 18.6 per 100,000 children ages 1-4, to no more than 12.3 per 100,000 children ages 5-9 and to 16.8 for children ages 10-14.[ii] The following table shows how the overall death rate for children ages 1-18 varies across rural and urban communities.

**Table 3: Deaths per 100,000 Children Ages 1-18 Washington, 1999-2001**

| | Ages 1– 9 years | Ages 10–18 years |
|---|---|---|
| Small town rural | 44.9 | 51.5 |
| Large town rural | 16.1 | 32.3 |
| Urban fringe | 17.2 | 26.6 |
| Urban core | 19.2 | 31.6 |
| State | 30.2 | 32.3 |

Unintentional injuries are the leading cause of death for children and youth in Washington State. The unintentional injury death rate is significantly higher in small town rural areas compared with more urban areas, regardless of age group. The leading causes of unintentional injury deaths for children are motor vehicle crashes, drowning, and suffocation.

**Table 4: Unintentional Injury Deaths per 100,000 Children Ages 1-18 Washington, 1999-2001**

| | Ages 1–9 years | Ages 10–18 years |
|---|---|---|
| Small town rural | 22.8 | 31.3 |
| Large town rural | 7.4 | 19.7 |
| Urban fringe | 7.9 | 14.7 |
| Urban core | 5.5 | 13.5 |
| State | 7.2 | 15.7 |

Motor vehicle crashes account for the majority of unintentional injury deaths to children in Washington State. The Healthy People 2010 objective is to reduce motor vehicle crash deaths in the whole population to no more than 9.2 per 100,000.[ii] The motor vehicle crash death rate for Washington children is significantly higher in small town rural areas than in urban areas, regardless of age group. The higher death rates in rural areas probably reflect the need to drive further, relatively poor driving conditions, lower prevalence of seat belt use, and limited

availability of emergency medical services. Additionally, traffic enforcement has been limited recently in rural counties due to loss of funds to support deputy sheriffs.

| Table 5: Motor Vehicle Crash Deaths per 100,000 Children Ages 1-18, Washington, 1999-2001 | | |
|---|---|---|
| | Ages 1–9 years | Ages 10–18 years |
| Small town rural | 10.8 | 22.2 |
| Large town rural | 4.3 | 13.4 |
| Urban fringe | 3.7 | 10.4 |
| Urban core | 2.2 | 8.0 |
| State | 3.2 | 10.1 |

Deaths due to intentional injuries account for the second leading cause of death among children in Washington State. While the death rate for intentional injuries does not vary significantly between rural and urban counties, the rates are significantly higher for adolescents than children regardless of where they live.

| Table 6: Intentional Injury Deaths per 100,000 Children Ages 1-18 Washington, 1999-2001 | | |
|---|---|---|
| | Ages 1–9 years | Ages 10–18 years |
| Small town rural | 1.5 | 10.2 |
| Large town rural | 0.4 | 5.9 |
| Urban fringe | 1.1 | 5.5 |
| Urban core | 1.4 | 8.2 |
| State | 1.3 | 7.6 |

**Hospitalization Rates**[iii]

The overall child hospitalization rate is significantly higher in small town rural areas compared with other areas in the state. Small town rural areas had the highest overall hospitalization rates, followed by urban core areas, regardless of age group.

| Table 7: Hospitalizations per 100,000 Children Ages 1-18 Washington, 1999-2001 | | |
|---|---|---|
| | Ages 1–9 years | Ages 10–18 years |
| Small town Rural | 2,220.3 | 3,181.2 |
| Large town Rural | 1,503.9 | 2,284.9 |
| Urban fringe | 1,293.8 | 1,770.5 |
| Urban core | 1,845.8 | 2,420.6 |
| State | 1,745.6 | 2,343.9 |

Asthma accounted for 6.4% of the hospitalizations of Washington children ages 1-18 during 1999-2001. Although the asthma hospitalization rates in small town rural communities were higher than some other parts of the state, the rate is not significantly higher than the state rate.

| Table 8: Asthma Hospitalizations per 100,000 Children Ages 1-18 Washington, 1999-2001 | | |
|---|---|---|
| | Ages 1 – 9 years | Ages 10 – 18 years |
| Small town Rural | 189.3 | 66.1 |
| Large town Rural | 110.6 | 44.8 |
| Urban fringe | 112.2 | 32.5 |
| Urban core | 246.7 | 68.5 |
| State | 207.1 | 59.5 |

**School Survey Data**[iv]

Washington's public schools administer the Healthy Youth Survey (HYS) every two years. The HYS is a collaborative effort of the Office of Superintendent of Public Instruction, the Washington State Department of Health, the Department of Social and Health Services Division of Alcohol and Substance Abuse, and the state Office of Community Development. Students in grades 6, 8, 10, and 12 participate.

The 2002 HYS showed that 10th-graders in rural areas in Washington were equally as likely as students in urban areas to report smoking cigarettes or report carrying a weapon in the past 30 days. Students in rural areas were more likely to report using marijuana or hashish in the past 30 days than students in other areas of the state, but the differences were not statistically significant. Tenth-graders in small town rural areas were significantly more likely to report drinking alcohol in the past 30 days than were students in urban areas of the state. The Healthy People 2010 targets are to increase to 89% the proportion of adolescents who report not using alcohol or illicit substances during the past 30 days.[ii]

| Table 8: Estimated Percentages on Selected Current Health and Safety Behaviors 10th-graders Washington Healthy Youth Survey, 2002 | | | | |
|---|---|---|---|---|
| | % Current Smokers | % Current Hashish or Marijuana Smokers | % Currently Carrying Weapon | % Current Alcohol User |
| Small town rural | 15 | 24 | 8 | 36 |
| Large town rural | 15 | 19 | 10 | 32 |
| Urban fringe | 14 | 17 | 8 | 28 |
| Urban core | 15 | 18 | 9 | 29 |
| State | 15 | 18 | 8 | 29 |

The survey asked students how often in the past 12 months they or their family had to cut their meal size or skip meals because there wasn't enough money for food. Statewide, 7% of students reported that they cut their meal size or skipped meals almost every month. The proportions were highest in large town rural and urban core areas, but the differences across the state were not statistically significant.

| Table 9: Estimated Percent of 10th-graders Insecure About Food Every Month, Washington, 2002 | |
|---|---|
| Small town rural | 7 |
| Large town rural | 8 |
| Urban fringe | 7 |
| Urban core | 8 |
| State | 7 |

Students were asked whether they felt safe at school. The responses were fairly uniform across the state, with an average of 84% responding they mostly or definitely felt safe at school.

| Table 10: Percent of 10th-graders who Enjoyed Being at School In the Past Year, Washington, 2002 | |
|---|---|
| Small town rural | 85 |
| Large town rural | 86 |
| Urban fringe | 84 |
| Urban core | 84 |
| State | 84 |

**Children with Special Health Care Needs**

The challenges many children in rural areas experience are more significant for children with special health care needs living in rural communities. They often experience barriers that result in a lack or delay in early screening, evaluation, and diagnosis, and they often lack access to the comprehensive, coordinated services that may reduce the long-term severity of their disabilities or chronic conditions.

Results from the 2001 National Children with Special Health Care Needs Survey indicated that about 14% of all children ages 0-17 in the state, or 217,700 children, have special needs.[v] The following table uses hospitalization discharge data to show the burden of illness for children with special health care needs in different geographic regions of the state.[iii]

| Table 10: Children with One or More Hospitalizations for a Chronic Condition Per 100,000 Children Ages 1-18, Washington, 1999-2001 | | |
|---|---|---|
| | Ages 1–9 years | Ages 10–18 years |
| Small town Rural | 928.1 | 1,114.0 |
| Large town Rural | 658.9 | 790.2 |
| Urban fringe | 578.2 | 785.9 |
| Urban core | 889.5 | 1,127.9 |
| State | 818.6 | 1,030.1 |

| **What the Washington State Department of Health is doing to improve child and adolescent health in rural communities:** | **For more information, contact:** |
|---|---|
| ⇨ Residents of rural counties, regardless of population size, receive base-level maternal and child health (MCH) services through programs administered by local public health jurisdictions (LHJs).<br>⇨ Rural counties receive base level maternal and child health (MCH) funding regardless of population size to provide basic infrastructure for local health department MCH programs.<br>⇨ Every LHJ has an oral health coordinator to build coalitions and improve access to care and a child care nurse consultant to assist child care providers in meetings the health and safety needs of children in care.<br>⇨ In most LHJs, a local child death review committee reviews the unexpected deaths of children and recommends ways to prevent injury and death in their communities and the state.<br>⇨ The Washington State Department of Health has a contract for technical assistance to LHJs in the rural southeast region of the state for oral health access and disease prevention.<br>⇨ DOH also has a contract with the Office of Superintendent of Public Instruction to provide information to school districts statewide on health issues and requirements.<br>⇨ DOH staff serve on an Early Childhood Issues workgroup with representatives from both urban and rural LHJs to address health concerns.<br>⇨ Regional MCH teams with representatives from DOH and all of the LHJs meet quarterly to share issues and concerns.<br>⇨ Washington families with children ages 0-6, regardless of geographic location, receive periodic mailings with health information, safety tips, and reminders for immunizations, well-child visits and dental check-ups. The mailing list is based on birth records and amended additions.<br>⇨ Every rural county receives funding from DOH to support a public health nurse to serve as a Children with Special Health Care Needs Coordinator and help families access needed services for their children.<br>⇨ All rural counties are included in a statewide network of local CSHCN programs with regional representatives.<br>⇨ All rural counties have a Parent to Parent Coordinator to link families with children with special needs for | **Nancy Reid**<br>**Washington State Department of Health**<br>**Maternal and Child Health**<br>**(360) 236-3534**<br>**Email:**<br>**nancy.reid@doh.wa.gov** |

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|---|---|
| emotional support and information.<br>⇨ DOH is working with rural counties to develop county–specific lists of available resources for children with special health care needs and county health profiles based on available data sources.<br>⇨ DOH develops health promotion information and posts it on the internet to be accessible to all rural counties.<br>⇨ The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) serves Washington infants and children up to age five and pregnant and breastfeeding women at or below 185% of the federal poverty level or enrolled in Medicaid *and* who are nutritionally at-risk as verified by a health professional. WIC provides nutrition education, breastfeeding support, healthy food and referrals to health and social agencies. Sixty-seven agencies—including health departments, migrant and tribal agencies, and community-based organizations—contract to provide WIC services at 235 sites statewide.<br>⇨ SAFE KIDS Coalitions work throughout the state to prevent the number one killer of children ages 1 through 14, which is unintentional injuries. Through grassroots coalitions, local injury prevention advocates work to educate adults and children, provide safety devices to families in need, conduct research and data collection and to empower families and communities to protect children.<br>⇨ DOH works with local fire departments in rural counties to offer grants for fire injury prevention. Fire districts are encouraged to apply for grant funding on an annual basis to promote fire prevention education, escape planning and practicing and to distribute and install smoke alarms in homes of low-income families and seniors. | |

***ENDNOTES:***

[i] Washington State death certificate data: Vital Statistics 2001, Washington State Department of Health, Center for Health Statistics, December 2002.

[ii] Healthy People 2010: Understanding and Improving Health, US Department of Health and Human Services, Washington DC US Government Printing Office, 2000.

[iii] Comprehensive Hospital Abstract Reporting System (CHARS), Washington State Department of Health, 1987-2001

[iv] Washington State Office of Superintendent of Public Instruction, Department of Health, Department of Social and Health Services, and Department of Community, Trade, and Economic Development and RMC Research Corporation. Washington State Healthy Youth Survey 2002: Analytic Report. [V]

[v] 2001 National CSHCN Survey, Department of Health and Human Services, CDC, National Center for Health Statistics, Hyattsville, Maryland, April 28,2003.

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